Point sources contribution to Galactic center GeV excess with e-ASTROGAM

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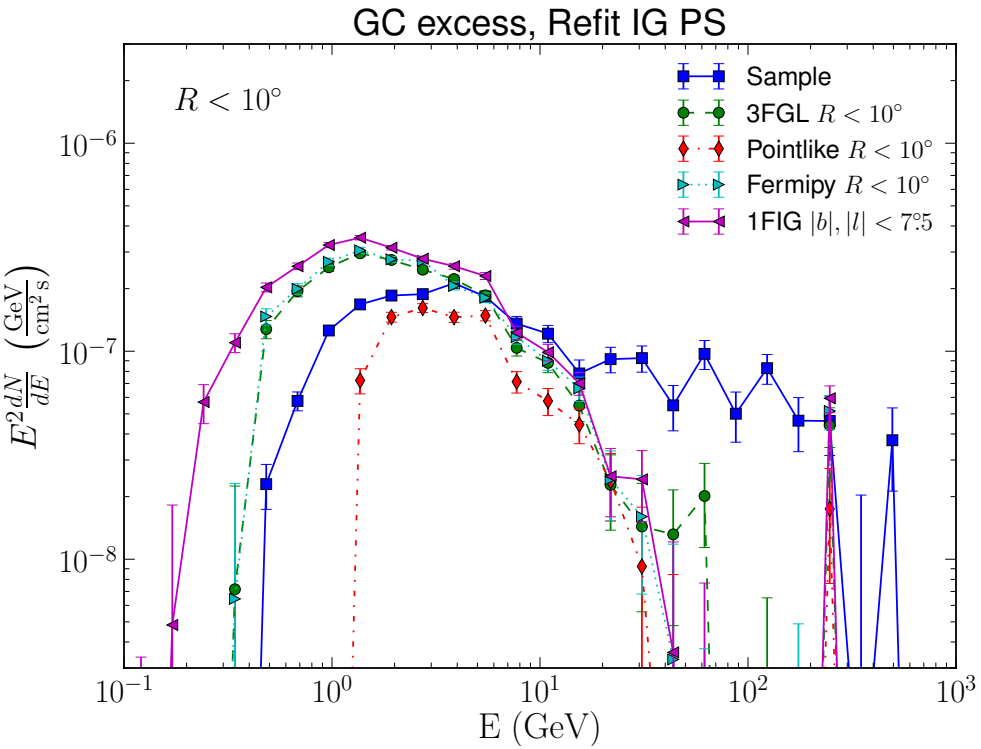
Motivation

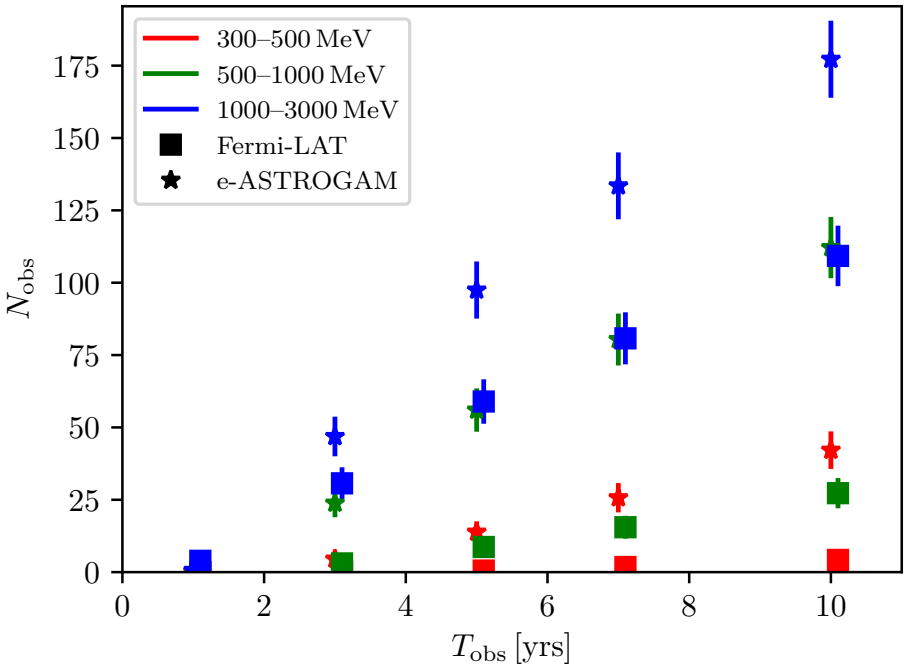
- **Contribution from point sources is one of the most important uncertainties in understanding the nature of the GeV gamma-ray excess near the Galactic center (especially at energies below a few GeV)**
- **One of the main problems is a poor angular resolution and possible source confusion**
- **e-ASTROGAM with a better angular resolution will be able to resolve more PS**



Ackermann et al, ApJ 840, 43 (2017)

Statistical sensitivity of e-ASTROGAM

- Richard and Katie have run simulations to estimate the number of detected MSP-like PS by e-ASTROGAM and Fermi LAT
- It turned out that statistical sensitivity of e-ASTROGAM after 3 – 5 years is similar to Fermi LAT after ~ 10 years
- Not very encouraging, provided that Fermi LAT already has 9 years of data



Signal to background ratio

- **However, the GC region is very complex: one expects hundreds of sources to be detected within R < 10°, on top of that there are bright diffuse components, e.g., π°.**
  - **source confusion and components separation will be the major challenge in the analysis**
- **For e-ASTROGAM, the signal-to-background ratio is significantly better than for Fermi LAT**